

**CLUB PHONE: 345-0719**

APRIL 1990 APRIL 1990 APRIL

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April 6th General Meeting, Spenard Rec Center, 2020 W 48th St 7 PM

## PROGRAM

"Everything you wanted to know about HF and were afraid to ask"

"Surely you're joking Mr. X?"

Special Guest speaker

April 11th Board Meeting 7PM Hope Cottage Mtg Rm, 2805 Bering St.  
Between Benson and Northern Lights

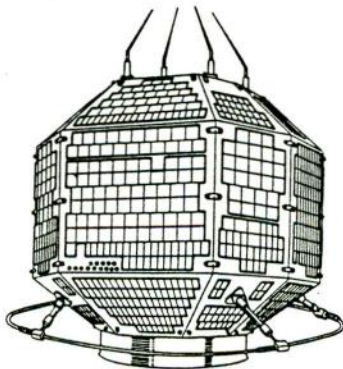
May 4th General Meeting

May 9th Board Meeting

Editor's Notes -

Articles for the Newsletter should be in the hands of the Editor by the 15th of the month. Typed or good computer copy (if possible). Send to Editor @ 3310 Checkmate Dr., Anc., AK 99508. Tnx

Harvey-NL7DK 333-4693



External appearance of JAS-1b

Minutes of the General Meeting March 2, 1990

KL7IZZ-Harley Steward is a candidate for Section Manager ARRL for the State. There will be an election held via ARRL.

N5FYW-Keith Fenrich is now a 3 year board member with 2 years to go. The Club voted to buy a "Platelet Rotator" for the Blood Bank of Alaska.

Our Program was "Packet" presented by KL7SM-Steve Mullins and KL7IKX Doug.

Prez Ed suggested possible programs for the future: 'Contesting', 'Field Day', 'QRP', 'DX', and 'Iditasports - Procedure'.

The Club BBS can be accessed via Modem. Call Fred-KL7HFM @ 274-3464 for info.

Door Prize drawing.

Meeting ended 2115+

Editor - Harvey

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Smoke Detectors

Have you checked your 'smoke detectors' lately? If not, do it! If they do work, can you hear them. Try them out with someone listening in other parts of the house. You may find that they are not audible in other areas of your home. If your detectors are hooked to your electrical system, one method I have heard of, is fix them so when one goes off. they all go off. It would certainly get your attention!! Check Detectors regularly, perhaps monthly. If you doubt the need, talk to KL7KI. Editor



## How To Beat The Morse Code

or How To Go From TECHNICIAN To EXTRA.

Copyright 1987/1990 by Bill W.R. Balzarini

In 1976, I developed a Morse Code copying technique while studying for a license upgrade (then K7MWC). Using the method in this article, I upgraded to Advanced in January 1977 and in March 1977 to Extra (call now KL7BB). In 1981-82, while teaching Morse Code classes (all license levels) at a radio club, this same technique worked very well with my students studying Morse Code for either General (13 WPM) or Extra (20 WPM) class.

### The CW Elements

First a look at the elements of the Morse Code and how a human being can relate to them. The ability to copy Morse Code is different than the ability to read Morse Code. If we read Morse Code, we know what the message is saying while it is being sent. When sending stops, there is no need to re-read the message for its text.

The definition of "copy" is for the purposes of this article. ("copy" means to write the Morse Code down on paper). While copying the Morse Code, you may not know the context of the message. You have only copied down the numbers, letters and punctuation. To learn the meaning of a message, after code sending stops, most of us will have to go back and read the written copy on our paper.

This article does not deal directly with our present 1 to 1 code speed. 1 to 1 copy means: (Direct Copy), Hearing the code sound and quickly writing (copying) it down with no delays while maintaining 100% accuracy.

Rather this article deals with how to copy Morse Code below and above our 1 to 1 speed.

Come and explore copying the Morse Code.

### What is practice?

Practice is when we make lots of effort to do something right. While practicing the code, it can be normal to only copy 25% to 50% correctly and make lots of mistakes. After lots and lots of practice we should copy 50% to 75% correct. After much more

practice we will be up to our goal of 100% copy. "No practice = no code" If in our code practice, we see only mistakes, errors and percentage wrong; a change of attitude is needed to see only the code we have copied correctly. Forget about the sounds not yet recognized and the characters missed. In the wonderful world of Morse Code, we have no time to dwell on past mistakes, the next letter is on its way, and we need to be ready to copy it. Spend practice time listening forward into the future and not looking back into the past. If a mistake is made, forget about it. The next letter, that we copy is just about to be sent. Listen for it!

Emphasis in this article is on the positive ways to practice the code and advance our speed to whatever rate we wish to copy. Natural ability for the Morse Code seems related to the ability to hear fast melodies. For example the fast song "Flight of The Bumble Bee".

### Writing The Code. A Speed Test.

How do we put down on paper what we have copied? How fast can we write or type? When taking an FCC/VEC test for an amateur radio license it is normally done with lined paper and a number 2 lead pencil. So, how fast can we write? To take a writing test and see how fast we are, goes something like this:

#1. Use lined paper and a #2 lead pencil.  
#2. Write down the alphabet and all the numbers across the top of the paper in a single line.  
i.e., ABCDEFGHIJKLMNOPQRSTUVWXYZ 0123456789  
for a total count of 36 characters per line.

#3. The idea of this test is to write down on paper as many lines of the alphabet + numbers as we can, in a one minute time period.

Our choices are:

I. Copy from the line on top of our page,  
or

II: Copy from our memory (mind) the line  
ABCDEFGHIJKLMNOPQRSTUVWXYZ 0123456789  
For this test, do what is easiest.

#4. Setup the writing test, with an alarm stop signal, from a watch or timer, for one minute after the start of the writing test.

#5. Start the timer and start this writing test. When the alarm sounds, quit writing and make a count of the total number of legible characters (letters and numbers) written down on the copy paper.

#6. Take the combined total count and divide by 5. The answer is our writing speed in words per minute (WPM).

#7. Most beginning CW operators will average 14 words (or less) per minute writing speed when they first start to practice. Over the next several weeks of additional practice we will work up to some new high speed of around 28+ WPM. This exercise tests our writing speed, so try it each day.

Up to this point, looking at the written elements of the Morse Code should be lots of fun.

### Advancing

How to go from Technician to Advanced, to Extra by using what we have available. i.e. code tapes, Instructo-Graph, receiving off the air, computer programs, code trainers (AEA #KT-1) and memory keyers.

The following requires that we exercise our minds to increase our thinking speed. Repeating drills and games are used to increase copy speed and pass a Morse Code test.

### The Categories.

1. The CODE (DATA serial bit stream of data)
2. The EYE (INPUT DEVICE. Converts lightwaves into our minds).
3. The EAR (INPUT DEVICE. Converts soundwaves into our minds).
4. The HAND (OUTPUT DEVICE)(Normally used to write or type).
5. The MIND (CPU) (Code processing unit) (Must also handle Input/Output routines)
6. HOW TO. Beat the Morse Code (PRACTICE)

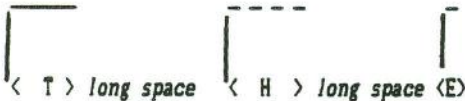


## The Details

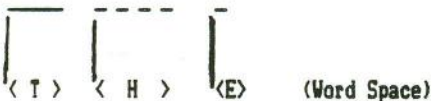
### 1. The Code Elements

Good code copying communication comes from the Ear into the Mind and not from the Eye.

The best type of Morse Code for CW practice has a fast letter rate (somewhere over 15 WPM) with long spacing in between each letter, resulting at a end rate of 5 WPM. It is very important to notice while copying that the Morse Code letters sound the same at both the slower and faster speeds. We will not have to keep re-learning the sounds of the letters and numbers as our speed increases. As we increase, the letter rate and the word per minute (WPM) rate becomes the same (somewhere over 20 WPM). The following is an example of the word "THE" at 5 WPM.


  
 < T > long space < H > long space < E >

At 15 WPM the long spaces become shorter.


  
 < T > < H > < E > (Word Space)

The most important element of the Morse Code is the (longer) word space between words. While learning to recognize the "word space", we can use the space as a tempo drumbeat or clock to tell ourselves that a new word is just about to start. The space between words starts just after the first word has been sent. Listen for the space. At slower CW speeds, a "DIT" (short sound) might seem like the easiest element to hear and recognize. To a beginner, when the Morse Code speed is up somewhere over 70 WPM, a DIT can be difficult to hear. Somewhere over 90 WPM a DIT sound, can take on a perception that it is just there...or was it? Example: To a beginner, the word "THE" could sound like a "6" at around 100 WPM. With really fast CW code, longer letters, numbers and punctuation can be easier to learn. Sending long code characters takes more time, therefore we get more time to copy them.

### 2. The Eye

This receiving device inputs and converts lightwaves into our minds (CPU). Lots of Hams and Boy Scouts start out by reading & memorizing the Morse Code. Did you first learn Morse Code by reading it? I call this "EYE INPUT" into your mind. The following paragraphs can train us to bypass the Morse Code EYE INPUT chart in our minds. If we presently hear Morse Code in long and short sounds, & then have to stop and make a lookup comparison to a code picture chart in our minds, we are using visual lookup chart (i.e. a picture of the Morse Code learned by reading out of a book). Our EYE lookup chart is one element of the copying process that is not needed. Time that our minds use for a visual lookup, should be redirected to listening ahead and writing behind.

### 3. The EAR

EARS input and convert Sound Waves into our minds. When copying Morse Code by ear, we must hear (listen) fast enough, to recognize dits, dahs, and spaces between letters and words. We also concentrate on listening ahead with our ears. The ear also supplies us with the leading edge of the next code sound. We can use the sound as a signal to tell our hands to write down the previously heard code letter (copied but delayed in writing).

### 4. The HAND

This is our output writing device. Our minds output commands to our hand-printers. Hopefully our writing speed is somewhat near or faster than our desired final code copying speed (i.e. 13 to 20 WPM). If our writing speed is way slow (8 WPM) we will need to practice writing the alphabet to increase writing speed. Limbering exercises and soaking in warm water can also help our hands to loosen-up.

5. The MIND (and its present learning pattern?) Our mind takes the Morse Code DATA from the EAR, decodes it, & then compares the results with what is stored in memory as a picture version of the Morse Code (i.e. "EYE lookup chart"). The EYE lookup chart compares the dits and dahs from our EAR for a matching combination. When a matching combination occurs, it is forwarded to our HAND OUTPUT (printing)

device. We then write down the letter or number. Therefore, we have an EAR to EYE to HAND, conversion for copying the Morse Code. (see fig. 1.) In the following paragraphs we can learn how to change our copying process to have our hand respond directly to the code sounds at our ears, thereby eliminating the EYE lookup chart.

## HOW TO STUDY THE CODE

First a quick peek at a similar skill. People who can read a book and listen to background music at the same time, are sharing the processing skills of the mind between 2 different tasks. So long as the speeds/rates of both tasks remain low, the mind can handle the information processing task. If the speed of the reading increases, the speed of the listening goes down. If the speed of the listening increases, the speed of reading goes down. If the the speed of the listening were to increase to a very fast rate,...the mind would have to devote most of its time to processing the listening information and ignoring the reading (EYE) input.

### This Is What To Do.

The idea is to speed up the mind to enhance the entire copying process. It can be improved by purposely causing the mind to do something else extra,..Like; delaying the writing (outputting) of the just-processed letter, until the ear hears the starting edge of the next letter,...then let the motor part of the mind tell the hand to write the letter down on paper (delayed by 1, 2 or 3 letters). Now at the same time, the EAR has to recognize the new incoming CW data and get it ready to print. The data is printed when the ear hears yet another code letter (or space between words).


  
 hear T  
hold T

hear H  
hold H  
print T

hear E  
hold  
print h



## Step # 1.

Now a point about listening ahead and copying behind (writing/printing behind). In the case of the word "THE", listening ahead or copying behind does not happen until sending the second letter "H" has started. We can now use our old *slow* 5 WPM code tapes or on the air slow speed practice to develop our listen ahead / copy behind skills.

## Step # 2.

Now that we think that our old and slow code tapes are memorized, take and substitute typing on a typewriter (even if we use only one finger) in place of writing Morse Code down on paper with a pencil. This change, causes our minds to solve a new set of problems, even at the same old slow speed of 5 WPM. The result is a problem, so big at first, the only way that our minds can process the new output data is to speed up the EARS recognition rate of the letters and numbers. (i.e., It increases our copying speeds).

## Step # 3.

Now, increase to around 7 WPM. Copying 1 to 1, with pencil and paper. (Copying "1 on 1" means: Hear a letter, quickly write it down with no delays). Next, switch to copying 1 letter behind at around 7 WPM. When we are good at 1 letter behind copy, switch to copying 2 letters behind. Here enters a new (or old?) problem. The beginners mind can find that copying at 2 characters delayed for any length of time is difficult work. After just a couple of Morse Code words the mind likes to lock up and refuse to continue with the code copy (i.e. we suffer a crash). Have no fear. If we continue on, by starting back at 1 to 1 copy for a few letters and quickly move up to copying 1 delayed for a few more letters, our minds should be relaxed enough from the crash that we can go back to trying the 2 delayed copy again. We can suffer a couple more crashes, however, each time our minds should become more tolerant of copying more letters at "2 delayed". In many ways this procedure might be analogous to burning a ROM program into an older-series computer EPROM IC chip. The program was repeated many times before the EPROM had 100% of the program in its memory. The goal is to create a delay program in your memory to allow Morse Code to be stored, before being sent out to our HANDS for printing. By

repeating the 2 delayed practice, we can create a delay copy program in our memories (i.e. build a bigger buffer).

## Step # 4.

Stay at around 7 WPM and switch to using a typewriter. Copy 1 to 1 on the typewriter. Next switch copying to 1 letter behind. When proficient at copying 1 letter behind switch to copying 2 letters behind.

## Step # 5.

Now increase to around 11 WPM with pencil and paper at regular 1 to 1 copy. When this speed seems comfortable, switch to copying 1 behind. Try and increase up to copying 2 behind.

## Step # 6.

Switch to a typewriter and copy around 11 WPM at 1 on 1. When comfortable with copy, switch to 1 letter delay behind. Try and increase copying up to 2 behind.

## Step # 7.

Now go back to 5 WPM with pencil and paper. Copy 2 letters behind. Now try and copy 3 letters behind. When you can copy 3 letters behind, at 5 WPM, your 1 to 1 copy at the higher speeds should improve dramatically. The reason for the improvement is that this type of practice emphasizes "the quicker recognition of the Morse Code sound, by forcing us to do something else with the long time between each code letter. Become proficient at copying 3 or more characters delayed.



## Step # 8.

When those old slow 5 WPM tapes are now starting to sound familiar, switch back over to a typewriter and copy 2 letters behind. Try and increase delayed copy up to 3 letters behind. Those with a very high code proficiency (over 20 WPM) should try and copy 2 to 3 words behind.

A Listening-Only Test To Build Confidence.

The idea behind taking this listening test is to show that we have the ability to hear the fast code sounds at speeds much higher than what we normally copy. It is only our unfamiliarity with what the combined long and short sounds mean, that stops us from recognizing what was said (i.e., 100% copy).

A quick Listening Only Test which we can take to evaluate our ability to hear different Morse Code sounds, might go something like this:

1. A working knowledge of the Morse Code is not necessary for this listening only test.
2. The code listening only test starts fast (over 75 WPM) and ends up slow (at 10 WPM).
3. Have someone with a code machine or computer send very fast code letters (or use code tape). The letters should be in groups of 2. Start at over 75 WPM rate, with lots of space (3 to 7 seconds) between each group. i.e. "HH" (7 sec space) "WJ" (7 sec space) "77" (7 sec. space) and so on.
4. The way we take this listening only test, is to try & tell if both letters in the group are the same (S) or if they are different (D).
5. If a first group sent is the letters "H H" we would write down the answer as S (same). If a second group sent is "W J" we would write down the answer as D (different). If a third group sent is the numbers "7 7" we write down the answer S (same).
6. If our hearing ability will not let us recognize any of the sounds or differences, drop the speed down to 60 WPM, then to 50 WPM. Below 50 WPM, most beginners can start to hear the sound differences in a Morse Code pattern.

You now have several new ways to evaluate your code listening abilities.

1. Copying real words down on paper at your present 1 to 1 speed with 100% copy.
2. Listening only to the 35 to 50 WPM sounds of letter and number code patterns with 100% "S" (same) or "D" (different) copy.



### Conclusion

After 3 to 8 weeks (having practiced every night for 1 1/2 hours) you should be up to around 17 WPM with pencil and paper. (some of us will want to breakup the study time into 30 minute segments). Notice the Morse Code now is heard as words with spaces in between the words.

Morse Code should now flow from your ears to your hand without having to look up the code. Now, to see what was copied, you have to read your copy paper. At this point, the EYE look up chart should be eliminated in the copy process. If you wish to go on over 20 WPM++, the Morse Code practice should be with words and sentences

On the air Morse Code practice can be found at: W6QIE 3.590 MHZ (starts at 04:00Z to 06:00Z with 5 to 30 WPM), K7HLR 3.698MHZ (starts at 01:30Z to 03:30Z) and W1AW see QST for time and freq.

Copy the code broadcasts each day from 5 WPM to 30 WPM. This can increase your CW copy rate. Just listening to the top speeds of 20 - 25 - 30 WPM can limber up your ears and mind. The next day your code copy (at 5 WPM with 1 letter delay) becomes easier as the code now sounds slower. (because you are copying faster)

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Bill W.R. Balzarini

KL7BB (907)-696-7388

19814 Fairmount Circle

P.O. Box 772099

Eagle River, Alaska 99577

### FOR SALE

Cleaning house and have the following to sell.

Heathkit CW Station 80-10 meters.

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HR-1680 Receiver

HS-1681

Speaker

PS-23 Power Supply Full QSK CW

\$200.00 takes it all.

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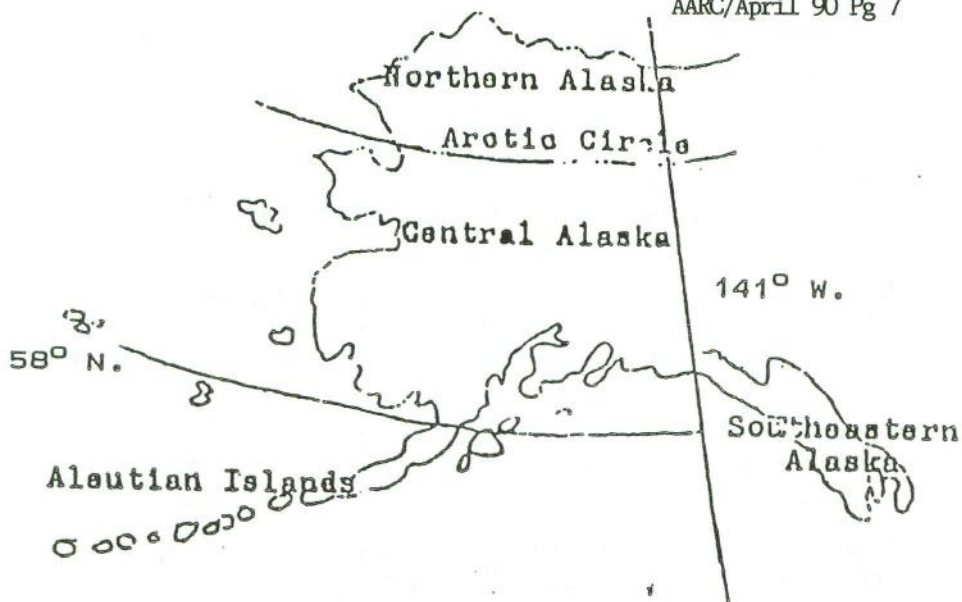
### LOST or STRAYED

Handheld - possibly at IditarodHQ.

Any information or questions ask

Susan-NL7NN at 243-5833







## ALASKA DX CERTIFICATE

Way back when, in PREQUAKE DAYS, the Anchorage Amateur Radio Club decided that in order to enhance more contacts with Alaska that an award should be offered to OUTSIDERS. The award has not been very easy to obtain since the club first initiated this certificate. To this date, there have been only ~~200~~ <sup>300</sup> certificates sent to stations in:

The Lower 48 States, Hawaii, Portugal, East Germany, West Germany, Switzerland, Korea, Italy, Japan, Caroline Islands, Okinawa, Norway, Austria, Finland, Czechoslovakia, Belgium, Poland, Soviet Union, Canada, Australia, Yugoslavia, New Zealand, Spain, France, Great Britain, Ireland, Scotland, and Hungary.

A reduced copy of the certificate is shown on an adjoining page. The certificate is colorful and not just one of the uncolorful wallpapering that so many certificates are. The designers of this award had plenty of imagination in depicting and combining the different scenes on the certificate.

The rules for this award are simple to follow and understand. Even you ten-ten'ers out there in Radio Land with all your awards can follow these. So here goes. Now follow closely.

1. All contacts with ten (10) Alaskan stations must be made since January 1, 1955.
2. Of the ten confirmed QSO's, there must be:
  - a. Four (4) QSO's with members of the Anchorage Amateur Radio Club.
  - b. At least one QSO from each of the following geographical areas of Alaska:
    - 1) Southeastern (that part east of 141 degrees west longitude)
    - 2) Northern (that part above the Arctic Circle)
    - 3) Aleutian Islands (including Kodiak Island and the Alaska Peninsula south of 58 degrees north latitude)
    - 4) Central Alaska (essentially everything else left over)

See map for boundaries if you can't follow the geographical areas description.

3. Any bands/modes may be used (except the WARC bands).
4. Send cards or a certified list signed by three licensed amateurs or an official of a national level organization/club with return postage.
5. Only offered to stations outside of Alaska.
6. Address: Anchorage Amateur Radio Club-KL7AA  
Box 101987  
Anchorage, Alaska 99510

The award managers for this certificate are Art Taylor-KL7SK, and Roger Hansen-KL7HFQ.

The above rules were reprinted from the March, 1988 issue of the Anchorage Amateur Radio Club newsletter.

Sounds like a really Neat Award. Guess we'll have to move in order to get it. Contact Roger-KL7HFQ for details.



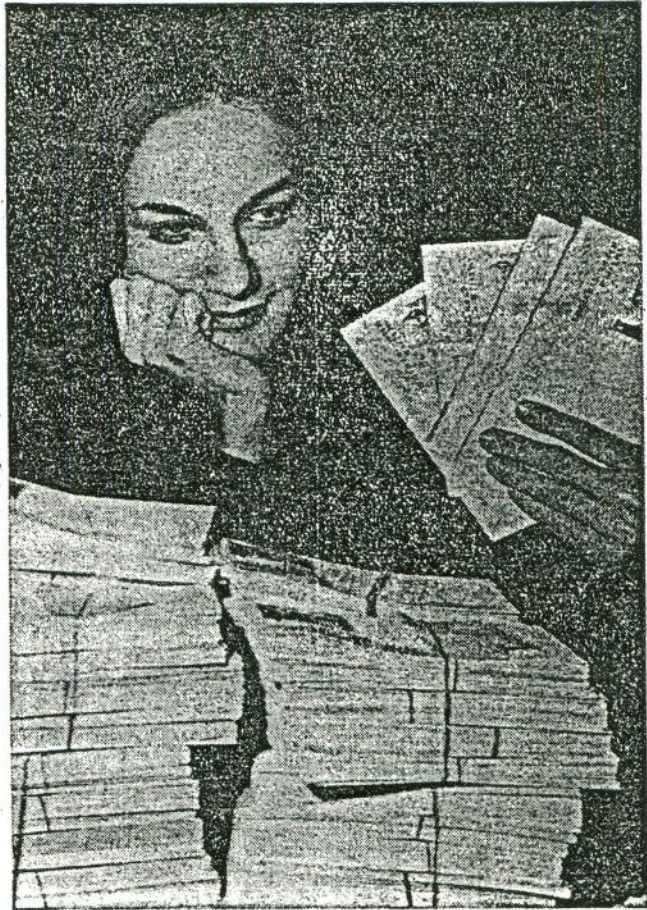
## WHERE WERE YOU IN '65?

### 25 Years Ago

February, 1965

(1) Dedication ceremonies for the amateur radio commemorative stamp were held both in Anchorage, Alaska (in tribute to our public service during last year's earthquake) and in the nation's capital. Postal and FCC top officials praised amateur accomplishments over the years.

If you missed your first day cover back in 1965, you are now a bit late! Carol Eaton (nee Bennett) was serving us hams loyally and royally way back then, though. Twenty one years later, with much dedication and study, Carol garnered a General ticket. Her callsign is WL7BIW, a/k/a Beautiful Intelligent Woman. Carol is QRV constantly on the 0.3 - 3.0 KHz band, some times voice, sometimes code. OM is AL7HX/Gene. He tells us that no amount of QRO can overcome inshack QRM. Does one need to pass an FCC test to learn this, Gene?



### AND MORE TO COME

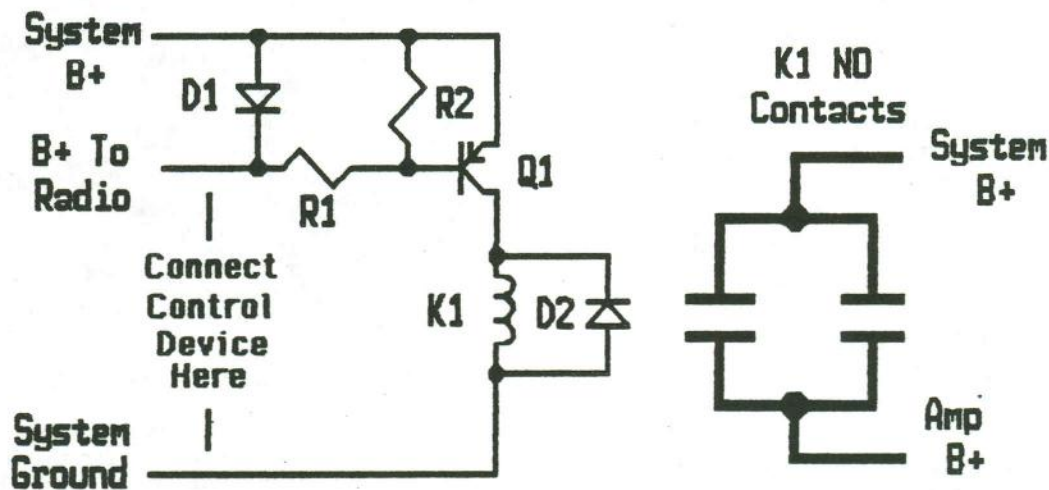
The Anchorage Post Office has received more than 60,000 pieces of first cover mail for the initial issue of the Ham radio operators stamp later this month. Miss Carol Bennett, above, is one of 15 persons helping to process the special mail. Many more applications are expected, said Tony Schwamm, postmaster. (Anchorage Times, 2-XII-64)



## Automatic Power On Switching for Mobile Equipment

by: John Ziv (Amateur in Training)

If you have additional equipment connected to your mobile radio, you probably get tired of turning each piece off and on separately. This is a real problem when one of the units draws a LOT of current, such as an amplifier that requires special switches, separate power wiring, etc. The circuit below (shown connected to an amplifier) can control as much power as the relay can handle, and can switch multiple circuits if each set of contacts is used separately. The circuit operation is as follows: Q1 is a germanium transistor that has a  $V_{be}$  of about 0.15 volts. Current flows from system ground up through the controlling radio (or other device), through R1, and through Q1, turning on Q1. Most germanium power transistors have a gain of at least 100, so 10 ma of control current will easily handle a 500 ma relay coil. R2 is used to bypass any "power



off" current used by the control device. This keeps Q1 from turning on at the wrong time. Remember,  $V_{be}$  decreases with an increase in temperature, so make this resistor as small as possible (without preventing proper turn-on) in the interest of thermal stability. R1 is used to limit the base current to Q1 and divert the remaining control device current through D1. (The voltage across R1 equals the difference between Q1's  $V_{be}$  and the voltage across D1, a silicon diode. This is typically about 0.45 volts.) D1 must be able to handle the full current rating of the control device. D2 is used to absorb the reverse current from the relay coil when Q1 is cut off. Typical values are: R1-10 ohms, D1-6 amps/50 volts, Q1-90 watts/10 amps/beta = 100, R2-100 ohms, D2-1N4001, K1- DPST, 15 amp contacts, 12 v 24 ohm coil. For very high current loads, one set of K1 contacts can control a continuous duty rated 12 volt solenoid, most of which can handle over 150 amps! Be sure to mount the relay (and solenoid) in a safe location, as grounding out the contacts can make for an interesting show.



## THE TRAIL

I'm going to leave old Anchorage soon,  
and travel by the light of the moon.

I've fed and cared for my dog team,  
and I know that they want to run again.

I've packed everything from food to tools,  
to forget one thing, I'd be a fool.

And when my turn on The Trail is come,  
I'll turn my head toward the city of Nome.

The cold, hard Trail will be my bed,  
and my sturdy dog sled will hold my head.

I'll try to make each race checkpoint,  
and not get lost and lose my time.

I'll repair my sled and keep a watch,  
hope I don't drop dogs or have to scratch.

I'm pushing on to Rainy Pass,  
and my dogs are running on a full tank of gas.

I've got to watch for moose on the loose,  
for there's only one Trail and I've got to choose.

I'm going to cross that Norton Sound,  
I don't know when, but I'll be around.

I'm coming into safety and I know I'm close,  
I can feel that surge, we can handle the throes.

A tired dog team and a musher, too,  
running for the finish, holding strong and true.

Do you hear that siren, so sure and clear,  
I can see the town, we're almost there.

Well, what do you think, team, shall we do it again?  
There's another long year to train again.

And the teams that scratched, they are winners, too,  
for the mushers and their dogs do what they have to do.

I'll tell everyone, both young and old,  
that a musher's team is better than gold.

Oh, the Trail is long and the Trail is rough,  
to go it alone, you gotta' be tough.

So, talk to your dogs, tell 'em what you need,  
tell 'em that you love 'em, they'll pay you great heed.

Sharon A. Dean-KL7VL



ANCHORAGE AMATEUR RADIO CLUB, INC.  
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## Yesteryears

IDEA SUGGESTED BY NGLTW-CHUCK

